



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 2-1120-A3	
Luminaire: 92.76.365.00	
Report No: NATA0100	Voltage(V): 218.0000
Test No: GC2019111504	Current(A): 0.0440
LampCAT: LUMENS EDC-47-10W	Power (W): 9.5000
Lamp flux(lm): 691.0	PF: 0.9940
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 620.55
Efficiency(%): 89.81%
Lumens(lm)/Power(W): 65.32
Central intensity(cd): 4584.867
Maximum intensity(cd): 4584.867
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=13.4
 [C90/270]Total=13.4
Field angle(10%Imax): [C0/180]Total=31.9
 [C90/270]Total=31.9
Maximum s/h(1/2): C0_180=0.23 C90_270=0.23
Maximum s/h(1/4): C0_180=0.25 C90_270=0.25
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.81%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.295%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4584.867	0.000	0	.000%	.000%
1.0	4519.969	4.356	4.356	.630%	.702%
2.0	4327.383	12.699	17.055	1.838%	2.748%
3.0	3984.609	19.880	36.935	2.877%	5.952%
4.0	3566.883	25.277	62.212	3.658%	10.025%
5.0	3083.203	28.608	90.82	4.140%	14.635%
6.0	2594.813	29.839	120.66	4.318%	19.444%
7.0	2152.828	29.469	150.128	4.265%	24.193%
8.0	1791.563	28.229	178.357	4.085%	28.742%
9.0	1429.608	26.106	204.463	3.778%	32.949%
10.0	1164.783	23.478	227.942	3.398%	36.732%
11.0	997.073	21.601	249.543	3.126%	40.213%
12.0	830.749	19.981	269.524	2.892%	43.433%
13.0	696.565	18.125	287.649	2.623%	46.354%
14.0	594.563	16.526	304.175	2.392%	49.017%
15.0	516.452	15.253	319.428	2.207%	51.475%
16.0	453.980	14.220	333.647	2.058%	53.766%
17.0	411.068	13.471	347.119	1.950%	55.937%
18.0	378.302	13.015	360.134	1.884%	58.034%
19.0	353.236	12.727	372.861	1.842%	60.085%
20.0	333.661	12.572	385.433	1.819%	62.111%
21.0	317.257	12.499	397.932	1.809%	64.125%
22.0	303.272	12.470	410.402	1.805%	66.135%
23.0	292.732	12.506	422.907	1.810%	68.150%
24.0	281.953	12.565	435.472	1.818%	70.175%
25.0	275.175	12.668	448.14	1.833%	72.216%
26.0	267.145	12.802	460.942	1.853%	74.279%
27.0	261.148	12.925	473.866	1.870%	76.362%
28.0	256.359	13.102	486.969	1.896%	78.473%
29.0	251.023	13.275	500.243	1.921%	80.612%
30.0	245.405	13.403	513.646	1.940%	82.772%
31.0	238.057	13.454	527.101	1.947%	84.940%
32.0	224.663	13.256	540.357	1.918%	87.077%
33.0	205.875	12.684	553.041	1.836%	89.120%
34.0	180.858	11.704	564.744	1.694%	91.006%
35.0	151.559	10.324	575.068	1.494%	92.670%
36.0	119.229	8.622	583.69	1.248%	94.059%
37.0	88.664	6.780	590.47	.981%	95.152%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	58.774	4.921	595.392	.712%	95.945%
39.0	35.599	3.221	598.613	.466%	96.464%
40.0	20.981	1.973	600.586	.286%	96.782%
41.0	14.077	1.248	601.834	.181%	96.983%
42.0	11.138	0.916	602.751	.133%	97.131%
43.0	8.810	0.739	603.489	.107%	97.250%
44.0	7.376	0.611	604.1	.088%	97.349%
45.0	6.363	0.528	604.628	.076%	97.434%
46.0	5.590	0.467	605.096	.068%	97.509%
47.0	5.041	0.423	605.519	.061%	97.577%
48.0	4.591	0.389	605.908	.056%	97.640%
49.0	4.261	0.364	606.272	.053%	97.698%
50.0	4.113	0.349	606.621	.051%	97.755%
51.0	4.008	0.344	606.964	.050%	97.810%
52.0	3.902	0.339	607.304	.049%	97.865%
53.0	3.825	0.336	607.64	.049%	97.919%
54.0	3.776	0.335	607.975	.048%	97.973%
55.0	3.713	0.334	608.309	.048%	98.027%
56.0	3.656	0.333	608.642	.048%	98.080%
57.0	3.614	0.332	608.975	.048%	98.134%
58.0	3.586	0.333	609.308	.048%	98.188%
59.0	3.565	0.334	609.642	.048%	98.242%
60.0	3.523	0.335	609.977	.048%	98.296%
61.0	3.516	0.336	610.313	.049%	98.350%
62.0	3.495	0.338	610.65	.049%	98.404%
63.0	3.480	0.339	610.99	.049%	98.459%
64.0	3.473	0.341	611.331	.049%	98.514%
65.0	3.459	0.343	611.674	.050%	98.569%
66.0	3.459	0.345	612.019	.050%	98.625%
67.0	3.459	0.348	612.367	.050%	98.681%
68.0	3.488	0.352	612.719	.051%	98.737%
69.0	3.544	0.359	613.078	.052%	98.795%
70.0	3.607	0.367	613.445	.053%	98.854%
71.0	3.649	0.375	613.82	.054%	98.915%
72.0	3.656	0.380	614.2	.055%	98.976%
73.0	3.509	0.375	614.574	.054%	99.036%
74.0	3.424	0.364	614.939	.053%	99.095%
75.0	3.473	0.364	615.303	.053%	99.154%

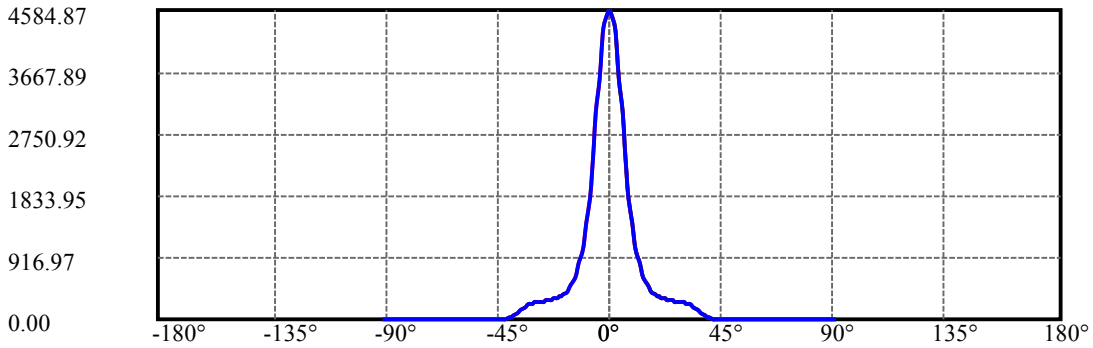
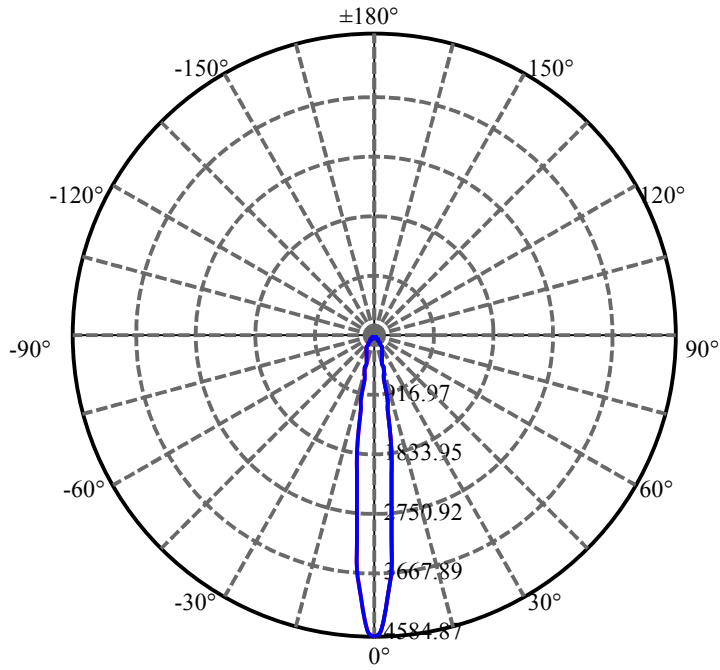
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.509	0.371	615.674	.054%	99.214%
77.0	3.551	0.376	616.05	.054%	99.274%
78.0	3.516	0.378	616.429	.055%	99.335%
79.0	3.466	0.375	616.804	.054%	99.396%
80.0	3.382	0.369	617.173	.053%	99.455%
81.0	3.340	0.364	617.536	.053%	99.514%
82.0	3.326	0.361	617.898	.052%	99.572%
83.0	3.270	0.359	618.256	.052%	99.630%
84.0	3.220	0.354	618.61	.051%	99.687%
85.0	3.171	0.349	618.959	.050%	99.743%
86.0	3.080	0.342	619.301	.049%	99.798%
87.0	2.953	0.330	619.631	.048%	99.851%
88.0	2.855	0.318	619.949	.046%	99.902%
89.0	2.742	0.307	620.256	.044%	99.952%
90.0	2.700	0.298	620.554	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	513.65	74.33%	82.77%
0-40	600.59	86.92%	96.78%
0-60	609.98	88.27%	98.30%
0-90	620.26	89.76%	99.95%
0-120	620.26	89.76%	99.95%
0-180	620.55	89.81%	100.00%
60-90	10.61	1.54%	1.71%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.71	496.44	71.84%	80.00%

ZONAL LUMEN SUMMARY

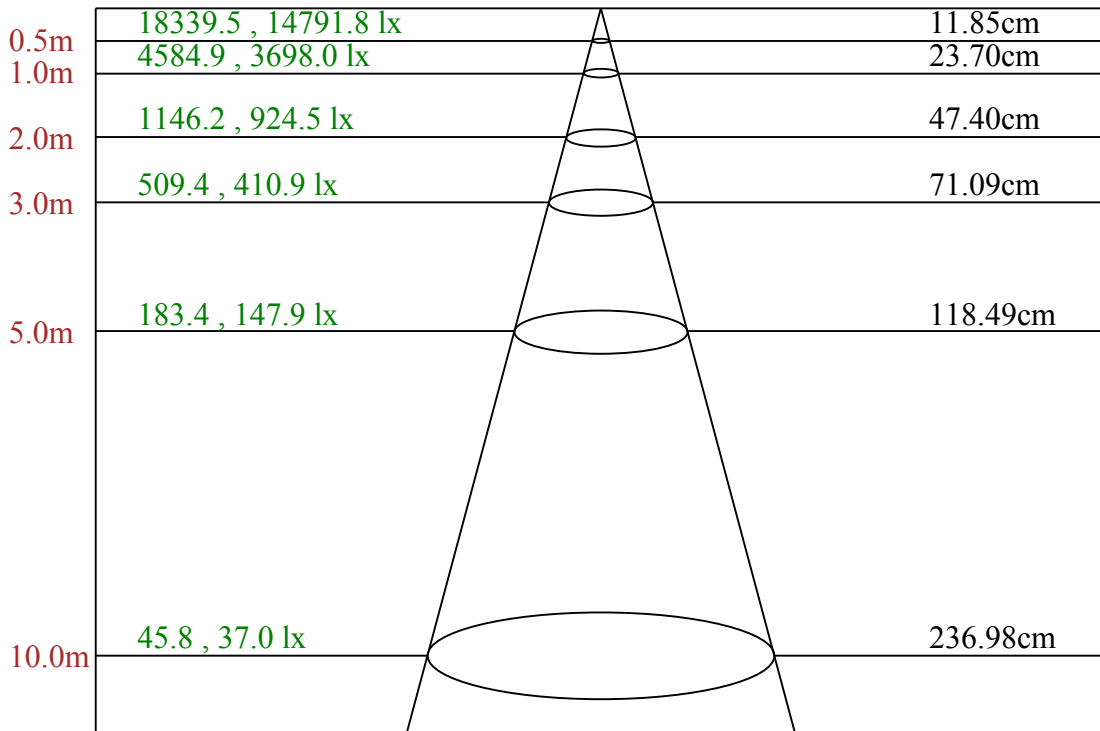
0-10	227.94
10-20	157.49
20-30	128.21
30-40	86.94
40-50	6.03
50-60	3.36
60-70	3.47
70-80	3.73
80-90	3.08
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



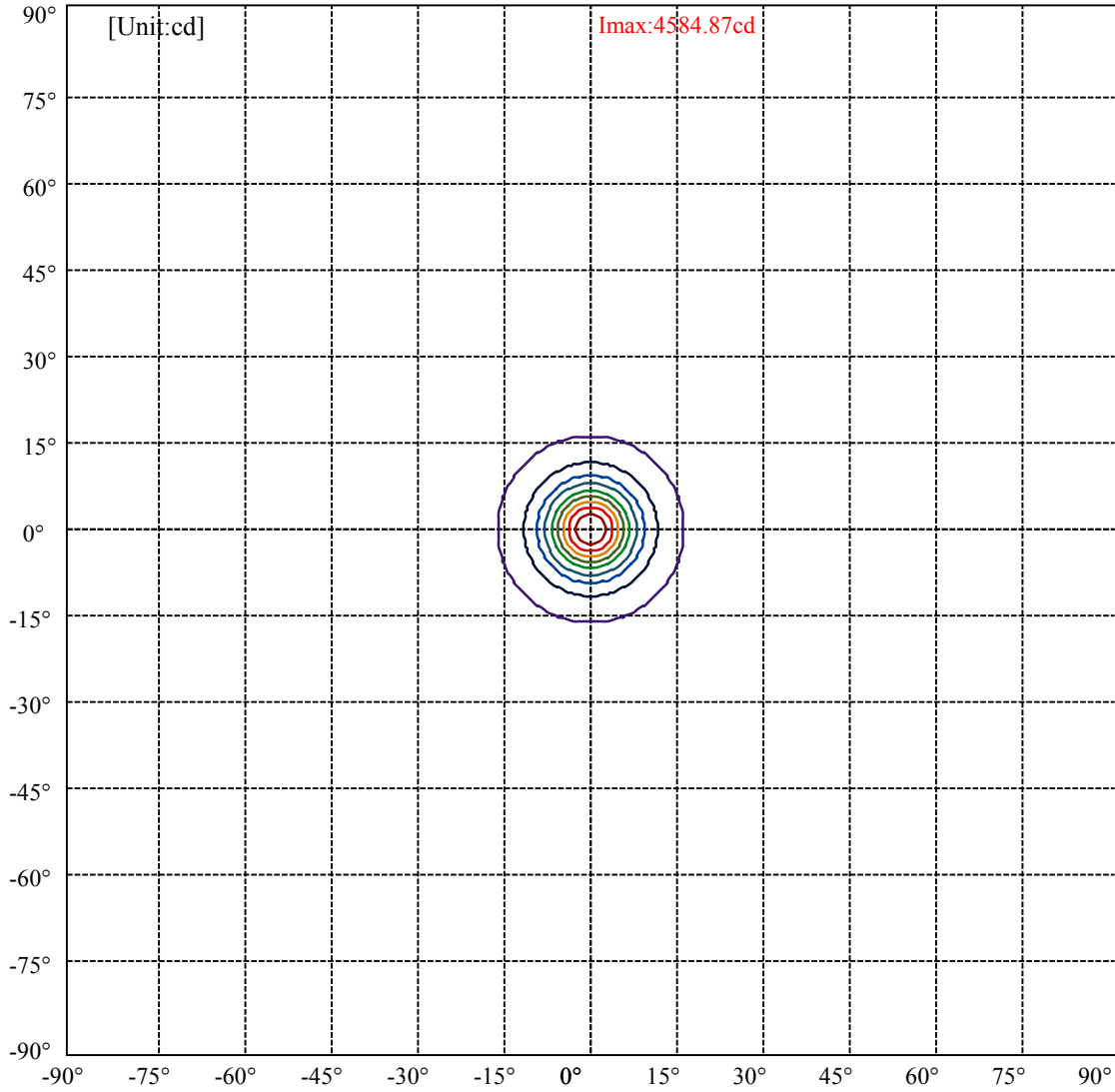
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:15.9 Right:15.9
:C90/270Left:15.9 Right:15.9

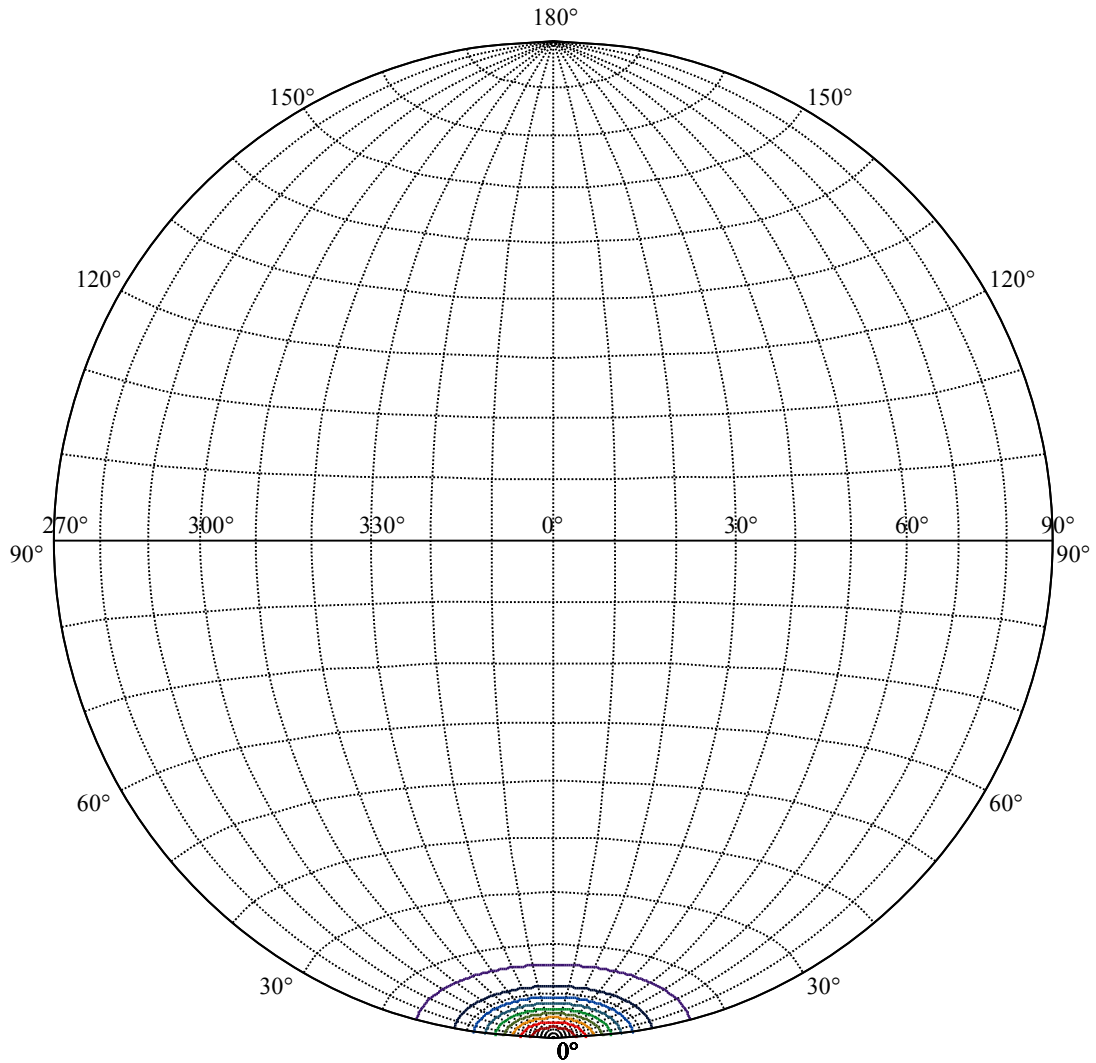
Beam Angle(50%Imax):C0/180Left:6.7 Right:6.7
:C90/270Left:6.7 Right:6.7



Max , Ave Beam angle of C0 plane 13.52



(10%I _{max}) 458.487	—
(20%I _{max}) 916.973	—
(30%I _{max}) 1375.46	—
(40%I _{max}) 1833.95	—
(50%I _{max}) 2292.43	—
(60%I _{max}) 2750.92	—
(70%I _{max}) 3209.41	—
(80%I _{max}) 3667.89	—
(90%I _{max}) 4126.38	—



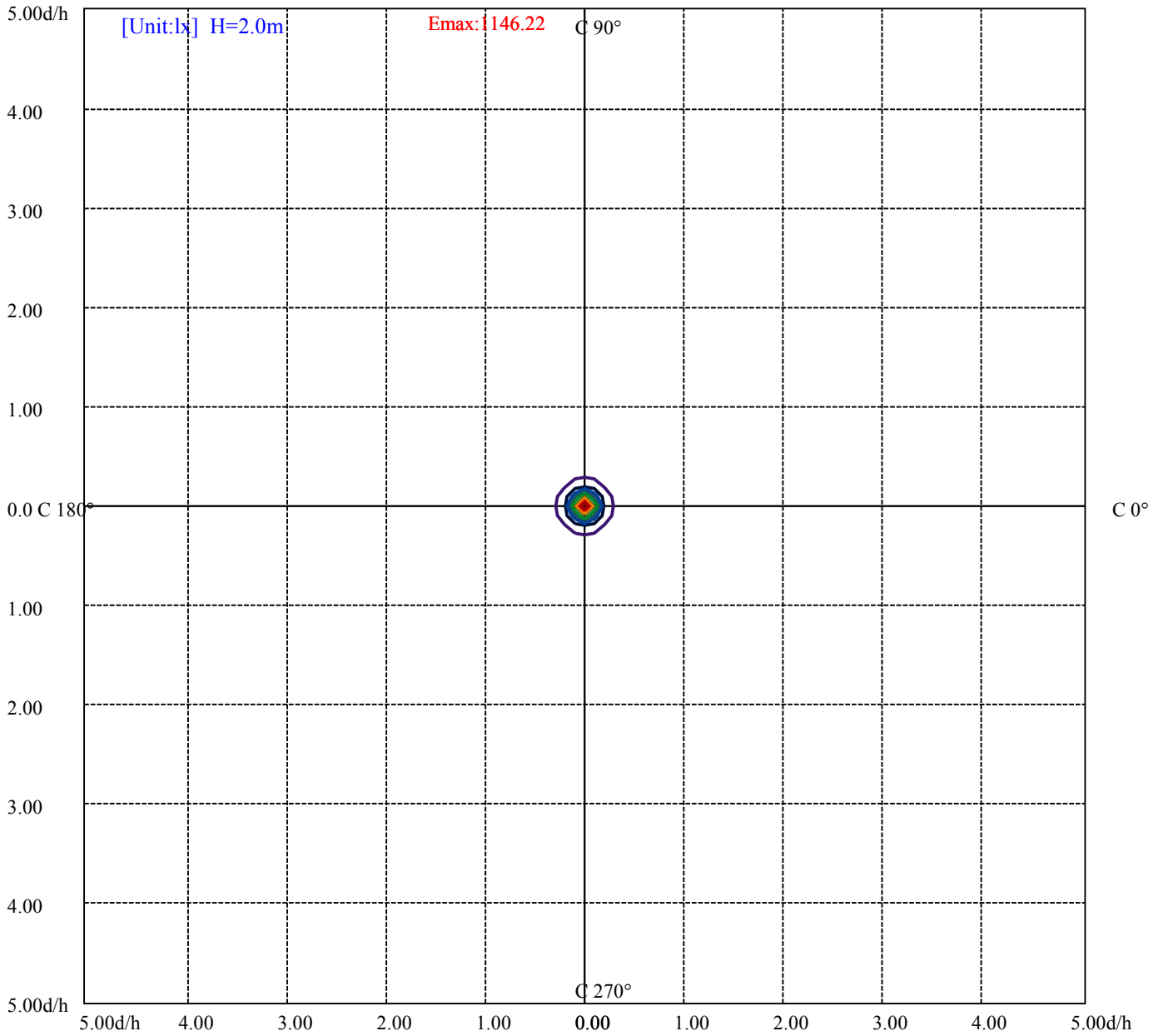
House

[Unit:cd]

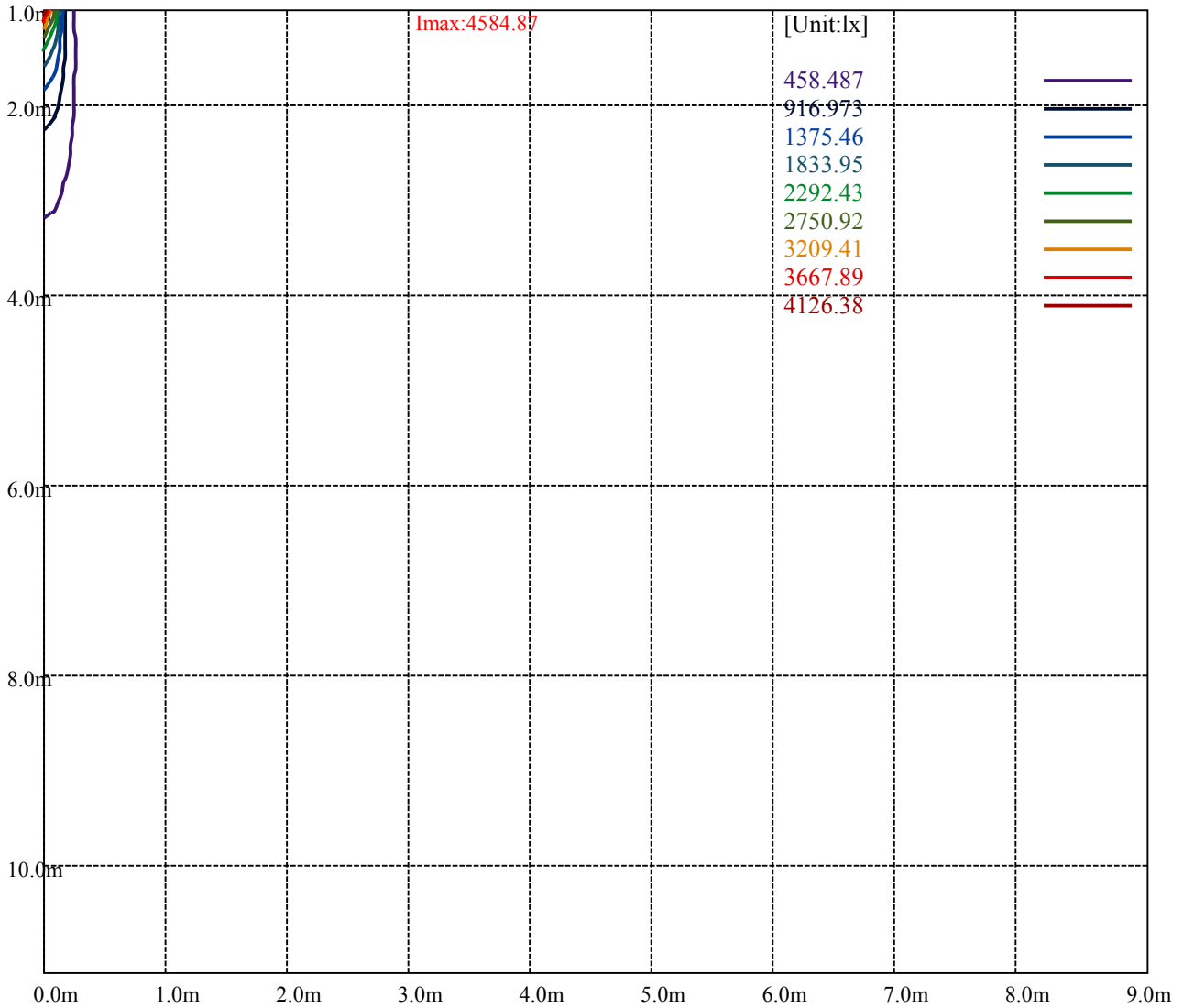
Road

Imax:4584.87

(10%Imax) 458.487	—
(20%Imax) 916.973	—
(30%Imax) 1375.46	—
(40%Imax) 1833.95	—
(50%Imax) 2292.43	—
(60%Imax) 2750.92	—
(70%Imax) 3209.41	—
(80%Imax) 3667.89	—
(90%Imax) 4126.38	—



- (10%Emax) 114.6215
- (20%Emax) 229.2428
- (30%Emax) 343.865
- (40%Emax) 458.485
- (50%Emax) 573.1075
- (60%Emax) 687.7275
- (70%Emax) 802.35
- (80%Emax) 916.9725
- (90%Emax) 1031.593



Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

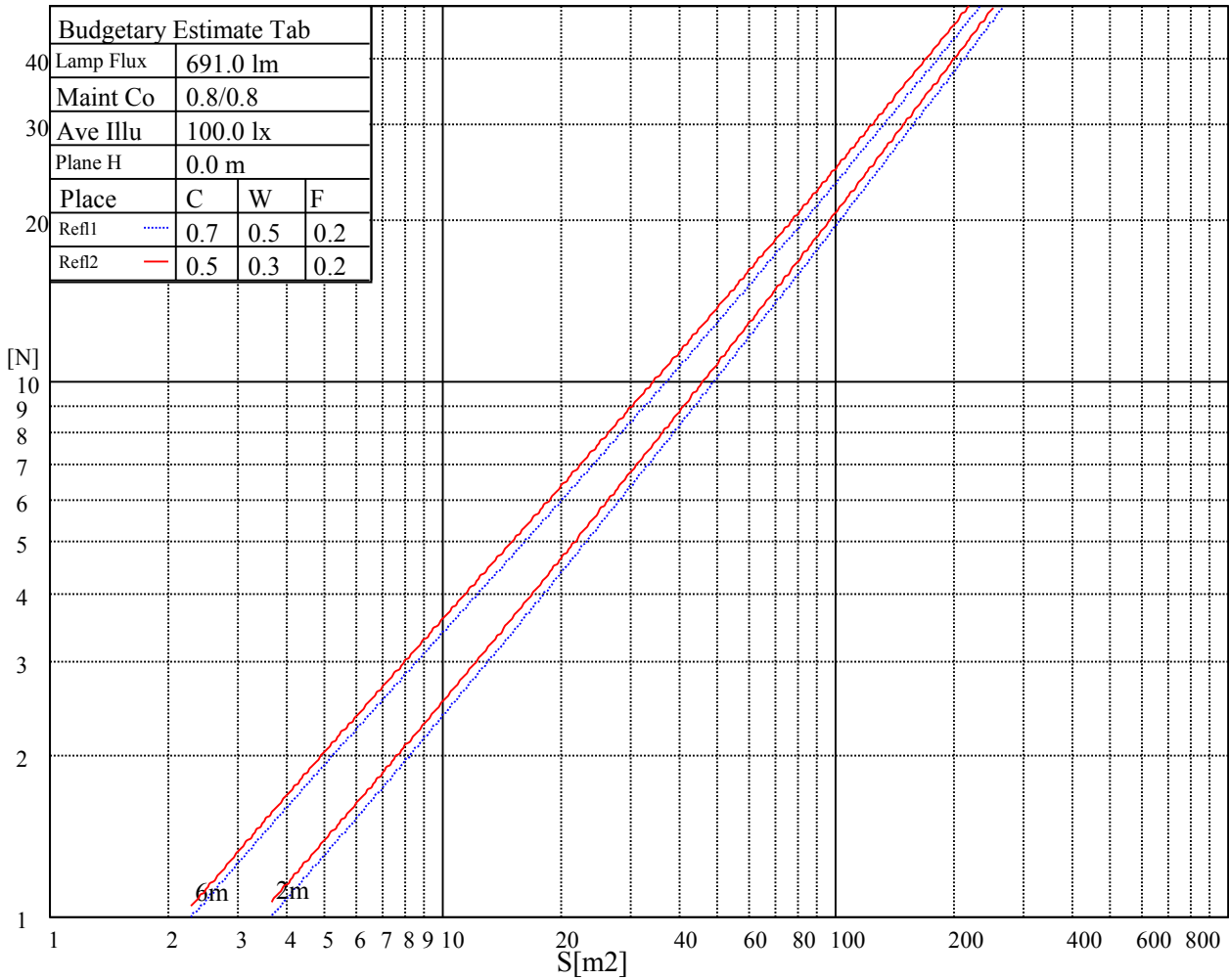
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

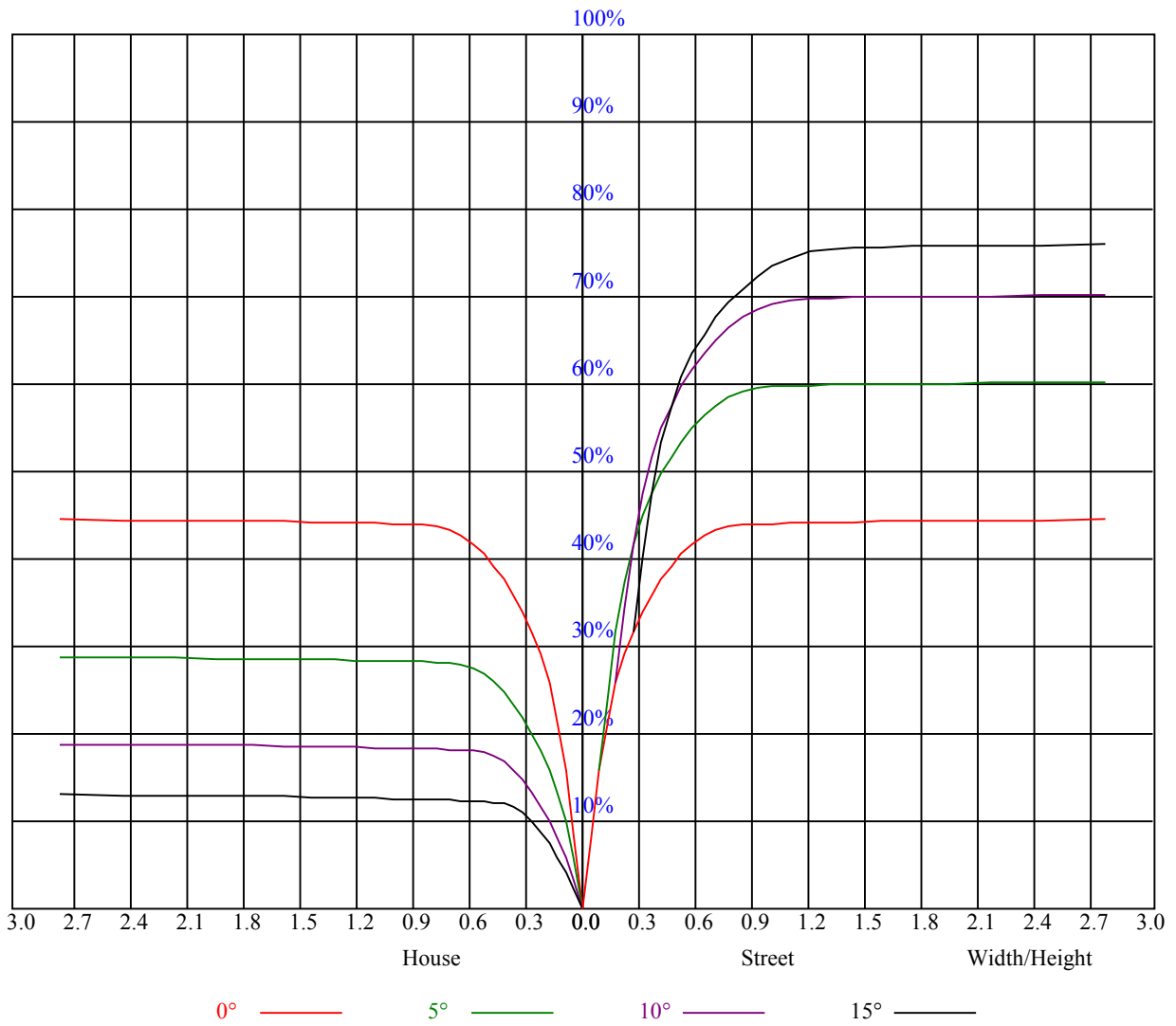
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.95	0.92	0.89	0.93	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.85	0.86	0.84	0.83	0.82
3	0.90	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.82	0.80	0.83	0.81	0.79	0.78
4	0.86	0.82	0.79	0.85	0.81	0.79	0.83	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.73	0.72
6	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
7	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
8	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
9	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.62	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	4551.75	4596.75	4486.50	4243.50	3834.56	3390.75	2870.44	2377.13	1988.44
45.0	4599.00	4574.25	4360.50	4083.75	3702.38	3141.56	2698.88	2279.81	1861.88
90.0	4561.88	4391.44	4119.19	3644.44	3192.19	2737.13	2267.44	1849.50	1535.63
135.0	4619.81	4446.00	4175.44	3809.81	3309.75	2781.00	2344.50	1920.94	1607.63
180.0	4565.81	4370.06	4090.50	3609.56	3156.19	2683.69	2152.13	1809.00	1521.00
225.0	4599.00	4527.56	4309.31	3946.50	3543.75	3081.94	2569.50	2120.06	1739.81
270.0	4561.88	4631.63	4574.81	4378.50	4023.00	3534.19	3063.38	2563.31	2161.13
315.0	4619.81	4622.06	4502.81	4160.81	3773.25	3315.38	2792.25	2302.88	1917.00
360.0	4551.75	4596.75	4486.50	4243.50	3834.56	3390.75	2870.44	2377.13	1988.44
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1616.06	1312.31	1097.44	923.63	753.19	646.88	563.06	484.31	438.19
45.0	1514.81	1258.31	1025.44	860.06	713.81	601.88	526.50	462.38	415.69
90.0	1113.47	1019.93	858.94	713.48	612.62	525.43	460.58	417.54	384.75
135.0	1309.50	1068.19	899.44	748.13	631.13	550.13	482.63	417.94	379.13
180.0	1111.33	1018.63	860.51	731.48	615.21	527.96	467.27	413.55	372.94
225.0	1454.06	1107.62	991.24	820.80	698.85	590.12	507.60	450.45	407.64
270.0	1766.25	1435.50	1193.06	997.88	806.63	686.81	591.75	504.00	453.94
315.0	1551.38	1097.78	1050.53	850.56	741.09	627.30	532.24	481.67	436.28
360.0	1616.06	1312.31	1097.44	923.63	753.19	646.88	563.06	484.31	438.19
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	407.81	375.75	353.81	339.19	320.63	307.13	294.19	284.63	274.56
45.0	384.75	360.56	338.06	322.31	308.25	294.75	285.19	284.63	269.55
90.0	353.81	334.58	318.38	302.01	291.26	282.26	273.88	268.48	263.59
135.0	351.00	327.38	311.06	298.69	286.31	284.06	270.79	264.94	259.65
180.0	346.44	324.28	309.43	296.33	286.14	278.72	272.25	265.05	259.88
225.0	370.91	348.69	330.64	312.02	299.48	288.84	277.82	270.39	265.16
270.0	415.69	382.50	355.50	336.38	317.81	303.19	291.94	284.06	273.15
315.0	396.00	372.15	352.41	331.14	316.29	302.91	289.58	279.23	271.63
360.0	407.81	375.75	353.81	339.19	320.63	307.13	294.19	284.63	274.56
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	266.91	261.62	256.89	252.90	245.98	238.84	230.40	213.41	189.79
45.0	264.09	259.65	253.86	249.02	241.65	231.81	214.82	188.72	157.05
90.0	258.02	253.97	248.51	240.02	232.26	209.93	179.44	154.74	127.97
135.0	254.64	250.09	244.35	237.99	229.28	209.81	183.54	151.20	114.92
180.0	255.32	249.24	243.96	237.71	228.38	207.79	184.61	152.72	120.21
225.0	259.03	254.70	250.03	243.39	236.53	225.96	201.43	175.39	144.56
270.0	266.51	261.96	255.99	251.55	246.26	237.15	227.31	207.23	177.81
315.0	264.66	259.65	254.59	250.65	244.13	236.03	225.45	203.46	180.17
360.0	266.91	261.62	256.89	252.90	245.98	238.84	230.40	213.41	189.79
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	158.63	117.34	79.37	51.98	27.90	16.65	13.61	10.29	8.61
45.0	130.11	100.74	65.31	39.94	21.94	14.63	11.53	9.11	7.59
90.0	87.02	65.98	41.91	22.44	14.57	11.98	9.06	7.59	6.58
135.0	84.77	62.33	33.69	19.46	14.51	11.70	9.00	7.88	6.53
180.0	81.45	47.87	30.15	17.27	12.94	10.69	8.61	7.14	6.19
225.0	109.86	81.23	54.73	29.42	16.03	13.11	10.01	7.99	6.81
270.0	152.78	121.16	85.84	57.54	36.28	17.78	14.01	10.69	8.44
315.0	149.23	112.67	79.20	46.74	23.68	16.09	13.28	9.79	8.27
360.0	158.63	117.34	79.37	51.98	27.90	16.65	13.61	10.29	8.61

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	7.31	6.30	5.51	4.89	4.28	4.16	3.99	3.88	3.77
45.0	6.53	5.68	5.06	4.61	4.22	4.11	3.99	3.88	3.83
90.0	5.68	5.18	4.84	4.44	4.28	4.16	4.05	3.94	3.88
135.0	5.68	5.23	4.84	4.56	4.33	4.16	4.05	3.94	3.88
180.0	5.51	4.89	4.61	4.33	4.16	3.99	3.94	3.83	3.83
225.0	5.91	5.18	4.78	4.44	4.28	4.11	4.05	3.94	3.83
270.0	7.14	6.19	5.40	4.84	4.39	4.16	4.05	3.99	3.88
315.0	7.14	6.08	5.29	4.61	4.16	4.05	3.94	3.83	3.71
360.0	7.31	6.30	5.51	4.89	4.28	4.16	3.99	3.88	3.77
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.77	3.66	3.54	3.49	3.49	3.43	3.32	3.32	3.32
45.0	3.77	3.71	3.60	3.54	3.54	3.49	3.43	3.43	3.38
90.0	3.83	3.77	3.71	3.71	3.66	3.66	3.60	3.60	3.60
135.0	3.83	3.83	3.83	3.77	3.83	3.88	3.83	3.88	3.83
180.0	3.77	3.71	3.71	3.71	3.66	3.66	3.66	3.66	3.71
225.0	3.71	3.71	3.66	3.60	3.54	3.54	3.54	3.49	3.49
270.0	3.83	3.71	3.66	3.60	3.54	3.49	3.43	3.43	3.32
315.0	3.71	3.60	3.54	3.49	3.43	3.38	3.38	3.32	3.32
360.0	3.77	3.66	3.54	3.49	3.49	3.43	3.32	3.32	3.32
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.26	3.26	3.21	3.21	3.21	3.15	3.15	3.09	3.15
45.0	3.38	3.32	3.32	3.32	3.32	3.32	3.26	3.26	3.26
90.0	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.77	3.94
135.0	3.83	3.83	3.83	3.83	3.83	4.05	4.39	4.61	4.73
180.0	3.71	3.71	3.71	3.71	3.77	3.83	4.05	4.22	4.28
225.0	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49
270.0	3.32	3.32	3.26	3.26	3.26	3.26	3.21	3.26	3.21
315.0	3.26	3.26	3.26	3.26	3.21	3.21	3.21	3.15	3.15
360.0	3.26	3.26	3.21	3.21	3.21	3.15	3.15	3.09	3.15
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.09	3.09	3.09	3.09	3.04	3.09	3.09	3.09	3.04
45.0	3.26	3.26	3.26	3.26	3.26	3.32	3.26	3.26	3.32
90.0	4.11	3.77	3.60	3.71	3.83	3.83	3.77	3.66	3.54
135.0	4.61	4.22	3.83	3.88	3.99	4.05	3.99	3.77	3.54
180.0	4.22	3.83	3.66	3.71	3.83	3.88	3.83	3.66	3.49
225.0	3.49	3.49	3.49	3.60	3.66	3.71	3.66	3.66	3.49
270.0	3.21	3.21	3.21	3.21	3.15	3.15	3.15	3.15	3.15
315.0	3.26	3.21	3.26	3.32	3.32	3.38	3.38	3.49	3.49
360.0	3.09	3.09	3.09	3.09	3.04	3.09	3.09	3.09	3.04
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.98	3.04	2.98	2.98	2.98	2.87	2.81	2.70	2.76
45.0	3.32	3.32	3.32	3.26	3.21	2.98	2.87	2.76	2.70
90.0	3.43	3.38	3.32	3.26	3.21	3.09	2.98	2.76	2.70
135.0	3.43	3.38	3.32	3.26	3.26	3.21	3.09	3.04	2.76
180.0	3.38	3.38	3.26	3.21	3.21	3.15	3.09	3.04	2.76
225.0	3.43	3.43	3.32	3.26	3.21	3.15	2.98	2.93	2.76
270.0	3.21	3.15	3.15	3.15	3.09	3.09	2.98	2.87	2.76
315.0	3.54	3.54	3.49	3.38	3.21	3.09	2.81	2.76	2.76
360.0	2.98	3.04	2.98	2.98	2.98	2.87	2.81	2.70	2.76

Intensity data(cd)

C/ γ ($^{\circ}$)	90.0
0.0	2.70
45.0	2.70
90.0	2.70
135.0	2.70
180.0	2.70
225.0	2.70
270.0	2.70
315.0	2.70
360.0	2.70